REMARKS

Claims 1-30 remain pending in this application. The allowance of claims 1-10, 25 and 26 is acknowledged with appreciation. Further reconsideration of this application is requested in view of the following remarks.

Rejection of Claims 11 and 12

Claims 11 and 12 stand rejected as being obvious over Stephan, U.S. Patent No. 5,677,535, in view of Lonn, U.S. Patent No. 5,777,332. The Office action alleges that it would have been obvious to use the "orbit calculation methods" allegedly taught by Lonn together with the proximity detection method of Stephan. This ground of rejection is respectfully traversed, on the basis that Lonn does not suggest using the position detection methodology of Stephan to calculate an orbital path around a patient.

First, Stephan neither determines nor calculates any orbital path to be used by the apparatus in moving the detectors about the patient to acquire data. Thus, the assertion of the Office action that Stephan determines an orbital path around the patient based on positions determined by the sensors is incorrect. Stephan discloses the use of three sensing planes 13, 14 and 15 across the face of a collimator (Fig. 2), in the form of infrared beams that are interrupted by the body of the patient, such that an algorithm keeps the patient within the boundaries of planes 13 and 14, and away from boundary 15. As explained previously, this is the same prior art method as described in the present application with respect to Fig. 7(A). To the contrary, the teaching of Stephan requires that the detectors 7, 8 be moved toward and away from the patient at each imaging position, to obtain an image acquisition position prior to acquiring image projection data.

Second, as also explained previously, Lonn discloses moving a camera and patient table relative to one another to allow <u>an operator</u> to define a non-circular orbit. Again, this is shown in Fig. 7(B) of the present application. Column 4 of Lonn, cited by the Office action as alleged motivation for the purported combination, actually describes at lines 41-60 the Stephan method. Lonn goes on to disclose at columns 6-9, relied upon in the rejection, the <u>operator-defined</u> orbit calculation that is the subject of the Lonn invention. Thus, there is no teaching within the Lonn disclosure from which one of

ordinary skill in the art would have attempted to use the approach and safety plane proximity detection of Stephan to somehow calculate an orbital path around a patient, as asserted in the Office action. Lonn teaches away from the "autosensing" method of Stephan as being "tedious and time-consuming" (col. 4, lines 61-62) in favor of the operator-performed path calculation as disclosed by Lonn.

Rejection of Claims 13-19

The rejection of claims 13-19 as being unpatentable over Kovacs (USP 4,503,331) and Ohike (USP 5,691,538) in view of Lonn, also is respectfully traversed, on the basis that one skilled in the art would find no motivation from Lonn to modify Kovacs and/or Ohike to perform an orbital path calculation based on first and second determined detector positions as asserted in the Office action.

Kovacs (cited at page 2 of the specification) discloses at col. 3, lines 48-55 the prior art method shown in Fig. 7(B), and at col. 3, line 63 – col. 4, line 2, discloses the prior art method as shown in Fig. 7(A). Kovacs fails to disclose the predetermination or calculation of a non-circular orbit by moving first and second detectors toward a patient to positions where proximity points are sensed by sensor elements, and then determining an orbital path using the detected positions.

Ohike discloses the use of distance sensors to measure the distance between the object under examination and the detectors; however Ohike also fails to disclose the predetermination or calculation of a non-circular orbit by moving first and second detectors toward a patient to positions where proximity points are sensed by sensor elements, and then determining an orbital path using the detected positions, as set forth in the claims.

As explained above, Lonn teaches away from autosensing methods of detector proximity location in favor of an operator-performed procedure for orbit calculation. The Office action's proposal to use the teaching of Lonn to calculate orbital paths in Kovacs as modified by Ohike, would thus similarly fail to result in the claimed invention as set forth in claim 13. In this regard, it is noted that Lonn does not teach calculation of orbital paths based on "first and second positions" as alleged in the final rejection. To the contrary, Lonn teaches that "[t]he set-up for a patient body contour tomographic scan in

accordance with the present invention requires that the operator specify the acquisition arc over which data will be taken." <u>See</u> Col. 6, lines 60-65.

Rejection of Claims 20-24

The rejection of claims 20-22 as being unpatentable over Kovacs in view of Ohike and Lonn and further in view of Hug (USP 5,444,252), and claims 23 and 24 as being unpatentable over Kovacs in view of Ohike and Lonn and further in view of Stephan, are respectfully traversed.

Claims 20-24 all depend from independent claim 13 and therefore include all the limitations of claim 13. Hug, cited for disclosing the orientation of detectors at 90 degree angles to each other, fails to cure the deficiencies of Kovacs and Ohike with respect to claim 13, and as such cannot render claims 20-22 obvious. Similarly, Stephan is deficient with respect to the invention of claim 13 as demonstrated above; consequently claims 23 and 24 are not rendered obvious by any addition of Stephan to the collective teachings of Kovacs, Ohike and Lonn. Withdrawal of these grounds of rejection is thus requested.

Rejection of Claims 27-30

The rejection of claims 27, 28 and 30 as being unpatentable over Lonn in view of Stephan, and claim 29 as being unpatentable over Lonn in view of Stephan and further in view of Kovacs, also are respectfully traversed.

Claim 27 requires a method for nuclear medicine imaging with at least one nuclear medicine detector that follows a non-circular orbit, comprising: a) automatically determining a plurality of orbital locations around a perimeter of a patient before performing image data acquisition; b) automatically predetermining a non-circular orbit around a patient based, at least in part, upon said plurality of locations; and c) moving at least one nuclear medicine detector along said predetermined non-circular orbit around said patient for acquisition of nuclear medicine data.

Neither Lonn nor Stephan teach the automatic determination of a plurality of orbital locations around a patient perimeter before performing image data acquisition. Lonn requires an operator to specify an imaging arc, and Stephan requires detector position

calibration at each imaging angle. Further, neither Lonn nor Stephan teach the automatic predetermination of a non-circular orbit based at least in part upon the plurality of automatically determined locations, as explained above. Again, Lonn teaches away from "autosensing" methods in favor of operator-defined orbits, and Stephan teaches nothing at all concerning the predetermination of an orbital path around a patient. Based on these facts, the rejection of claims 27, 28 and 30 is untenable and withdrawal thereof is requested.

Claim 29 includes the limitations of independent claim 27 and is not rendered obvious by any addition of Kovacs to the proposed Lonn/Stephan combination, as explained above. Accordingly, withdrawal of this ground of rejection is also requested.
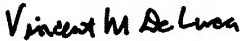
Comments On Reasons for Allowance

In view of the explanations, above, Applicants do not agree with the stated reasons for allowance that the patentability of the claimed invention rests upon the storage of determined detector positions. Rather, the features of the claimed invention wherein an orbital path of a scanning detector about a patient is automatically determined based on detected positions of the detector with respect to the patient are neither taught nor suggested by the prior art.

Conclusion

In view of the foregoing, claims 1-30 are submitted to define subject matter that is patentable over the prior art of record, whether considered individually or in any combination thereof. Accordingly, favorable reconsideration of this application and the issuance of a Notice of Allowance are earnestly solicited.

Please charge any fee or credit any overpayment pursuant to 37 CFR 1.16 or 1.17 to Novak Druce Deposit Account No. 14-1437.

RESPECTFULLY SUBMITTED,					
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